1.0 EXECUTIVE SUMMARY

1.1 INTRODUCTION

The City of Huntington Beach (City) is preparing this Subsequent Environmental Impact Report (SEIR) as the lead agency pursuant to the California Environmental Quality Act (CEQA) (Public Resources Code 21000 et seq.) and the state CEQA Guidelines (California Code of Regulations, Section 15000 et seq.) to evaluate the environmental effects of the proposed Seawater Desalination Project at Huntington Beach. This is an SEIR because the City, as lead agency, has determined that changes to the project and circumstances surrounding the project have occurred, and that new information has become available since the City certified the Final Recirculated Environmental Impact Report (REIR) for the Seawater Desalination Project at Huntington Beach on September 6, 2005 (2005 REIR). Specifically, this SEIR analyzes the project proposal of Poseidon Resources, LLC (Poseidon), which has submitted the following to the City for review and approval:

(1) An Entitlement Plan Amendment application (No. 10-001) to amend the conditional use permit (CUP No. 02-04) and coastal development permit (CDP No. 02-05) application to obtain approval to construct and operate an approximately 50-million-gallon-per-day (mgd) Huntington Beach Desalination Facility and other appurtenant and ancillary water and support facilities to produce potable water

(2) Plans to obtain approval to construct water conveyance facilities in the cities of Huntington Beach, Costa Mesa, Irvine and Newport Beach in order to deliver drinking water to the regional distribution system serving residents and businesses in Orange County.

This SEIR analyzes all components of the project, including the water conveyance facilities located outside Huntington Beach. The City of Huntington Beach does not have permit jurisdiction over project components located outside its boundaries. Agencies other than the City of Huntington Beach will use this SEIR when making a decision on aspects of the project that requires their approval. More information on agencies expected to use this SEIR may be found in Section 2.0, Introduction and Purpose.

1.2 PURPOSE AND OBJECTIVES

The purpose of this SEIR is to assess and disclose potential impacts to the physical environment associated with construction and operation of the proposed project. This document provides relevant information for consideration by decision makers and the general public. More information on this SEIR, including details about its preparation, may be found in Section 2.0, Introduction.

The overall objective of the project is to provide Orange County with a long-term, reliable, high-quality, and local source of potable water. Project implementation would create a local drought-proof supply of domestic water and could reduce Orange County's dependence on imported water, consistent with the goal of integrated water resource management. A key advantage of the selected site is to utilize existing ocean intake/discharge lines of sufficient seawater volume to avoid the impact of constructing new ocean intake/discharge facilities. The specific objectives related to the desalination facility and associated facilities and the land use applications through which they are processed include the following:

- Provide a reliable local source of potable water to Orange County that is sustainable independent of climatic conditions and the availability of imported water supplies or local groundwater supplies

- Provide product water that meets the drinking water requirements of the Safe Drinking Water Act and the California Department of Public Health

- Reduce salt imbalance of current imported water supplies by providing a potable water source with lower salt loads for blending with existing supplies

- Remediate the subject site of on-site contaminants resulting from approximately 35 years of use as a fuel oil storage facility in order to protect the health and safety of those in the surrounding community

- Create ecosystem and biologic resource benefits that may accrue due to decreased pressures on existing water resources and reduced contamination within receiving waters

- Minimize demands on the existing imported water system.

1.3 PROJECT PLANNING BACKGROUND

The applicant, Poseidon, has pursued the development of the site as a seawater desalination facility since 1999.The City of Huntington Beach prepared and circulated the initial final environmental impact report (FEIR) for the project in 2002. The City collected comments and drafted responses to comments. After several public hearings, the City of Huntington Beach Planning Commission certified the FEIR on August 21, 2003. On appeal, the City Council voted to deny certification of the EIR on December 15, 2003, citing a lack of sufficient information in regards to marine biology (entrainment and impingement), growth inducement, and project water compatibility. To address these issues the FEIR was revised and recirculated. The City Council certified the Recirculated EIR (2005 REIR) for the Seawater Desalination Project at Huntington Beach on September 6, 2005. The City of Huntington Beach approved the project's conditional use permit and coastal development permit on February 27, 2006. In its December 2006 decision on *Surfrider Foundation v. City of Huntington Beach* (Case No. 06CC00063), the California Superior Court rejected an appeal of the certified 2005 REIR.

Since the 2005 REIR was certified and the project approved, certain circumstances surrounding the project have changed, and new information that was not known and could not have been known at the time of certification has become available. Therefore, this SEIR is proposed to address the entire project, including the changes in the project description and changes in circumstance. This SEIR will require new approvals from the City of Huntington Beach's City Council.

Changes that have taken place since the 2005 REIR was certified and the 2006 CUP/CDP was approved include changes in operational assumptions primarily related to seawater intake. The 2005 REIR analyzed seawater intake effects (and certain other potential impacts of the project) based on reasonably foreseeable operational characteristics of the Huntington Beach Generating Station (HBGS). Under that scenario, a co-located condition, the desalination facility would draw source water from the discharge of the HBGS, after potential impacts associated with the HBGS

intake have already occurred. However, future conditions could include cessation or reduction of the existing power plant's historic seawater intake. Therefore, in addition to addressing the potential impacts of the project based on a co-located condition, this SEIR also addresses seawater intake effects (and certain other potential impacts of the project) based on a "standalone" condition, where the desalination facility would be responsible for direct intake of seawater. Since the 2005 REIR, the project has been revised to relocate and reorient certain features of the project, including modification to the project site boundaries within the HBGS facility. Changes in the route and the pipeline design for the delivery pipeline, including some design variations and optional routes (for more information refer to Section 3.0, Project Description), to provide more flexibility in water delivery options have also been made.

1.4 PROJECT LOCATION

The proposed seawater desalination facility site is approximately 13 acres in size and is located at 21730 Newland Street in the City of Huntington Beach, a coastal city along the Pacific Ocean in northwestern Orange County. The proposed project also includes off-site components located in the cities of Huntington Beach, Newport Beach, Irvine, Santa Ana, and Costa Mesa, California. The primary pipeline route includes improvements extending from the proposed desalination facility to the OC-44 water transmission line within the City of Costa Mesa, and east of State Route 55 (SR-55) at the intersection of Del Mar Avenue and Elden Avenue. Optional routes and pump stations are also considered and evaluated in the SEIR that would convey water northerly.

The majority of the pipeline alignment would occur within existing public streets, easements, or other rights-of-way in urbanized areas. Two off-site underground booster pump stations and modifications to an existing booster pump station would be needed as part of the primary route product water's distribution system. The first off-site underground booster pump station (the OC-44 booster pump station) is proposed to be located within the City of Newport Beach, south of the intersection of Bonita Canyon Drive and Chambord Street. The second underground booster pump station (the Coastal Junction booster pump station) would be located in the parking lot of St. Paul's Greek Orthodox Church, at 4949 Alton Parkway within the City of Irvine. The booster pump station requiring minor modifications is located along the OC-35 pipeline, near the intersection of Springdale Street and Skylab Road. A bypass station in Santa Ana Avenue just southwest of Bristol Street intersection, and two metering stations will be required adjacent to/or in Hamilton Avenue at the Talbert Channel crossing and east of the Adams Avenue/Brookhurst Street intersection.

1.5 PROJECT DESCRIPTION

Poseidon has submitted an application to the City to obtain land use approvals to construct and operate an approximately 50 mgd Huntington Beach Seawater Desalination Facility (desalination facility) and other appurtenant and ancillary water and support facilities to produce potable water. The proposed desalination plant would have the capacity to deliver approximately 50 mgd of reverse osmosis (RO) permeate (product water). The desalinated water from the desalination plant would be distributed to the City of Huntington Beach and various cities and local water districts as purchasers for use and consumption by homes and businesses in Orange County. The on- and off-site components of the desalination plant are discussed in Section 3.0, Project Description.

All components of the desalination plant, including on and off-site project elements, are proposed to be sized and built to accommodate and deliver approximately of 50 mgd of product water. The

project would include the demolition of three fuel oil storage tanks currently located on the proposed facility site. On-site facilities would consist of an administration building, RO facility building, pretreatment filter structure, solids handling building, post-treatment structure, chemical storage structure, product water pump station and surge tank, fluoride tank, flush tank, ammonia tank, influent pump station, a 66-kilovolt (kV) substation and associated connections to existing electrical transmission lines, electrical building, an aboveground product water tank, and appurtenant facilities.

To produce 50 mgd of product water, the seawater desalination facility would require approximately 100 mgd of seawater. The proposed desalination facility would receive source water from the adjacent AES HBGS. The HBGS currently uses a condenser cooling system ("once-through cooling") in its energy production process and is permitted to intake up to 514 mgd of seawater directly from the Pacific Ocean through an existing intake pipeline. HBGS circulates the seawater through the energy-producing plant for cooling purposes. The historical maximum flow rate at HBGS has been 507 mgd. The source water for the proposed seawater desalination facility will be taken from the existing HBGS condenser cooling-seawater discharge pipeline system after the water has been used by HBGS for cooling. However, if in the future the HBGS were to cease the use of once-through cooling, or if the HBGS were to permanently alter its cooling water system's historical operations, the proposed seawater desalination facility would intake water directly from the Pacific Ocean via the existing HBGS intake pipe. In either case, and in order to protect the marine environment, 50 mgd of concentrated seawater would reenter the Pacific Ocean via the existing HBGS discharge pipe after blending with additional intake water to be used for dilution.

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The desalination facility would use state-of-the-art seawater RO membranes, which are capable of removing practically all contaminants in the source water: turbidity, taste, odor, color, bacteria, viruses, salts, proteins, asbestos, organics, etc. With pores ranging from 0.00005 to 0.0000002 microns (for comparison, typical human hair size is 200 microns) the RO membranes would retain and remove over 99.5% of the seawater salinity; over 99 %of the metals and organics, 99.999% of the bacteria and other pathogens (*Giardia* and *Cryptosporidium*), and 99.9% of the viruses in the source water. Therefore, the desalination facility would produce drinking water of very high and consistent quality, which meets or exceeds all applicable regulatory requirements established by the U.S. Environmental Protection Agency and the California Department of Public Health. The RO desalination technology is described in Section 3.0.

1.6 ENVIRONMENTAL REVIEW REQUIREMENTS

Based on research and public comments gathered through development of the REIR, the City concluded that with proper engineering design, construction, and maintenance, the proposed project would not significantly affect the following environmental categories: population and housing, operations related transportation and traffic, mineral resources, noise and safety hazards relating to airports and airstrips, emergency response plans, wildlands interfaces, and agricultural and forest resources (Refer to Section 7.0, Effects Found Not to be Significant). Based on the 2005 REIR (including public scoping for the EIR), the City determined that an SEIR was required to more fully investigate project effects to aesthetics, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, noise and vibration, construction-related traffic and transportation, public facilities and service systems, cumulative impacts, and growth inducement (refer to Sections 4.1 through 4.12 and 5.0, Long-Term Implications of the Proposed Project).

1.7 ENVIRONMENTAL ANALYSIS

Table 1-1 provides a summary of impacts related to the proposed project.

TABLE 1-1
SEAWATER DESALINATION PROJECT AT HUNTINGTON BEACH – SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
OPERATIONAL IMPACTS		
LAND USE/RELEVANT PLANNING		
No significant impacts related to land use and planning were identified.	No significant impacts were identified; therefore, no mitigation measures are required.	The proposed project would have no significant impact related to land use and planning.
GEOLOGY, SOILS, AND SEISMICITY		
In absence of design and construction provisions related to seismic ground-shaking, impacts would be significant.	**GEO-1** A subsurface fault investigation shall be performed in accordance with California Geological Survey Note 49 to assess the nature and extent of possible surface-fault rupture across the southern portion of the site. If evidence for potential fault-surface rupture is found, an appropriate "setback" for structures from the zone of surface faulting will be required. **GEO-2** The potential for lateral spread shall be investigated as part of the site-specific geotechnical investigation for the project. The geotechnical report shall identify that geotechnical observation, laboratory testing, or both be completed during grading to identify areas of highly expansive soils and to determine the actual expansion potential of finish-grade soils. Compressible soils in areas that have the potential for lateral spread will require removal and recompaction in areas of proposed improvements or future fill per the specifications of a California-licensed engineer. **GEO-3** A certified engineer shall ensure that all structures associated with the proposed desalination facility have been designed to withstand the "design-level" earthquake, as set forth in the latest edition of the Uniform Building Code, prior to the issuance of grading permits. In addition, the project must follow the site specific geotechnical report and the professional engineer's recommendations. **GEO-4** A California-licensed Civil Engineer (Geotechnical) shall prepare and submit to the City a detailed soils and geotechnical analysis with the first submittal of the grading plan. This analysis shall include soil sampling and laboratory testing of materials to provide detailed recommendations for grading, chemical and fill properties, liquefaction and landscaping. The grading plan for the proposed project shall contain the recommendations of the final soils and geotechnical report. The recommendations shall be implemented in the design of the project, including but not limited to the measures associated with site preparation, fill placement, temporary shoring and permanent dewatering, groundwater seismic design features, excavation stability, foundations, soil stabilization, establishment of deep	Less than significant.

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	foundations, concrete slabs and pavements, surface drainage, cement type and corrosion measures, erosion control, shoring and internal bracing, and plan review.	
Expansive soils are potentially compressible in their present state, and soils on site contain corrosive materials.	**GEO-5** The use of Type V cement shall be used for concrete, and special coatings or other measures should be used to protect metal pipes against the effects of corrosion. **GEO-6** Depending upon the construction methods dewatering may be required in order to safely excavate the sites of the proposed below groundwater facilities, and may require some form of lateral support. Groundwater pumped from the dewatering wells will need to meet National Pollutant Discharge Elimination System permit requirements before it is discharged (refer to Section 4.9, Construction-Related Impacts). In order to prevent the buried tanks (and certain pipelines) from "floating" when water levels in the tanks/pipelines are drawn down, it will be necessary to either ""anchor" them down, add additional weight to the tanks/pipelines themselves, and/or add sufficient soil surcharge across the top of the tank/pipelines.	Less than significant.
Soils within the project site have a potential for lateral spread and are prone to liquefaction.	**GEO-7** Compressible soils in areas that have the potential for lateral spread will require removal and recompaction or future fill per the specifications of a California-licensed engineer. This process will require dewatering and support of walls of excavation or use of deep foundations such as stone columns or piles and grade beams to support proposed structures. **GEO-8** The proposed project shall incorporate recommended measures of the final soils and geotechnical/seismic analysis to stabilize structures from on-site soils known to be prone to liquefaction. Typical methods include, but are not limited to: • Over-excavation and recompaction of soils • In situ soil densification, such as vibro-flotation or vibro-replacement (i.e., stone columns) • Injection grouting • Deep soil mixing. **GEO-9** A California-licensed Civil Engineer (Geotechnical) shall prepare and submit to the City a detailed soils and geotechnical analysis with the first submittal of the grading plan. This analysis shall include soil sampling and laboratory testing of materials to provide detailed recommendations for grading, chemical and fill properties, liquefaction and landscaping. The grading plan prepared for the proposed project shall contain the recommendations of the final soils and geotechnical report. These recommendations shall be implemented in the design of the project including but not limited to measures associated with site preparation, fill placement, temporary shoring, and permanent dewatering, groundwater seismic design features, excavation stability, foundations, soil stabilization, establishment of deep	Less than significant.

IMPACT	MITIGATION MEASURES		LEVEL OF SIGNIFICANCE AFTER MITIGATION
		foundations, concrete slabs and pavements, surface drainage, cement types and corrosion measures, erosion control, shoring and internal bracing and plan review.	
HYDROLOGY, DRAINAGE, AND STORMWATER RUNOFF			
The project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems, or contribute significant increases in the flow velocity or volume of stormwater runoff to cause environmental harm, or provide substantial additional sources of polluted runoff. Although no significant impacts have been identified, a mitigation measure has been added to document standard requirements of the City of Huntington Beach that ensure adequate sizing and design of the stormwater drainage system.	**HWQ-1**	The City of Huntington Beach shall require that prior to the issuance of grading permits the applicant's Licensed Civil Engineer prepare a hydrology and hydraulic study to identify the effects of potential stormwater runoff from the project on the existing storm drain flows for the 10-, 25-, and 100-year design storm events. The study shall identify existing runoff and proposed runoff, in addition to existing storm drain system capacity at the site discharge location to the nearest down-gradient main junction. The applicant shall design site drainage and document that the proposed project would not increase peak storm event flows over existing conditions for the design storm events.	Less than significant.
	HWQ-2	Prior to the issuance of building permits (not including demolition permits), an appropriate on-site drainage system that integrates permanent stormwater quality features shall be installed for the project.	
Although no significant impacts have been identified in relation to potential impacts from a tsunami, a mitigation measure has been added that ensures planning measures have been prepared to minimize or reduce risks to property and human safety from tsunami during operation.	**HWQ-3**	Prior to issuance of grading permits, the applicant shall submit to the City for approval a plan outlining the specific planning measures to be taken to minimize or reduce risks to property and human safety from tsunami during operation. Planning measures could include, but not be limited to, the following: (a) Provision of tsunami safety information to all facility personnel, in addition to posting signage on site; (b) identification of the method for transmission of tsunami watch and warnings to facility personnel and persons on the site in the event a watch or warning is issued; and (c) identification of an evacuation site for persons on site in the event of a tsunami warning.	Less than significant.
AIR QUALITY			
No significant impacts related to air quality were identified.	No significant impacts were identified; therefore, no mitigation measures are required.		The proposed project would have no significant operational impacts related to air quality.
NOISE			
Pump noise levels at the proposed desalination facility site would potentially exceed the City of Huntington Beach's applicable exterior noise standards.	**NOI-1**	All pumps located outdoors (i.e., seawater intake pumps, filter effluent transfer pumps, and stand-alone pumps) shall be located within enclosed structures with adequate setback and screening, as necessary, to achieve acceptable noise levels at the property lines of nearby residences in accordance with the City of Huntington Beach's Noise Ordinance. Once the stationary noise sources have been installed, noise levels shall be monitored to ensure compliance with the City's Noise Ordinance. If stationary noise sources exceed levels specified in the City's Noise Ordinance, an acoustical engineer shall be retained by the project applicant to install	Less than significant.

IMPACT	MITIGATION MEASURES		LEVEL OF SIGNIFICANCE AFTER MITIGATION
		additional noise attenuation measures in order to meet the applicable noise standard.	
PUBLIC SERVICES AND UTILITIES			
Although no impacts related to solid waste have been identified, mitigation measures are proposed to ensure adequate solid waste service.	**PSU-1**	The applicant shall coordinate with the City of Huntington Beach's recycling representative to ensure that the proposed project is in compliance with the City's waste reduction and recycling program.	Less than significant.
	PSU-2	Prior to the issuance of a grading permit, the applicant shall prepare a waste reduction plan for the generation of construction and operational waste from the proposed project. This plan will be submitted to the recycling coordinator from the City of Huntington Beach, who will ensure that Assembly Bill 939 requirements are properly addressed.	
AESTHETICS/LIGHT AND GLARE			
The project would generally improve visual conditions on the project site and would not substantially degrade the existing visual character or quality of the site and its surroundings. However, mitigation measures have been identified that will provide assurances that the visual character of the site is maintained and enhanced per the design requirements of the City of Huntington Beach.	**ALG-1**	The applicant shall submit full design details pursuant to City of Huntington Beach requirements for design review submittals that will specify architectural treatments that minimize visual impacts. The design shall specify the following: • For areas visible from adjacent, existing, or proposed residential areas, exterior mechanical equipment shall be screened from view on all sides, and rooftop mechanical equipment shall be set back 15 feet from the exterior edges of the building. • Equipment to be screened includes, but is not limited to, heating, air conditioning, refrigeration equipment, plumbing lines, duct-work, and transformers. • Said screening shall be architecturally compatible with the building in terms of materials and colors. • If screening is not designed specifically into the building, a rooftop mechanical equipment plan showing screening must be submitted for review and approval with the application for building permit(s).	Less than significant.
The project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. Although this impact is less than significant, design standards would be implemented through the City's design review process to minimize light and glare.	**ALG-2**	The applicant shall submit a lighting plan to be reviewed and approved by the City. The plan shall: • Specify that light intensity for outdoor lighting shall be limited to that necessary for adequate security and safety. • Demonstrate that outside lighting shall be directed to prevent spillage onto adjacent properties.	Less than significant.

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
HAZARDS AND HAZARDOUS MATERIALS		
No significant impacts related to hazards and hazardous materials were identified.	No significant impacts were identified; therefore, no mitigation measures are required.	The proposed project would have no significant impact related to hazards and hazardous materials.
OCEAN WATER QUALITY AND MARINE BIOLOGICAL RESOURCES		
No significant impacts related to ocean water quality and marine biological resources were identified.	No significant impacts were identified; therefore, no mitigation measures are required.	The proposed project would have no significant impact related to ocean water quality and marine biological resources.
PRODUCT WATER QUALITY		
The project is not expected to result in significant impacts to regional potable water supplies with project design features incorporated. Mitigation measures are presented to document project design features and ensure that these efforts are included as requirements in future project plans.	**PW-1** Prior to project operations, the applicant shall obtain all required drinking water permits from the California Department of Health Services. These permits are anticipated to consist of the following: • A Wholesale Drinking Water Permit (on August 10, 2002, the California Department of Health Services issued a conceptual approval letter for the Seawater Desalination Project at Huntington Beach) • An Administrative Change to Retail Agencies' Drinking Water Permit (to include desalinated water from the proposed project as an approved source of supply for the California Department of Health Services). **PW-2** During final design of the proposed project, the applicant shall incorporate the following six provisions to protect water quality in the event of "non-routine" operations (defined as operations such as seawater emergency intake pump shutdowns and failures, electricity equipment malfunctions, excessively high temperature of the cooling water, etc.): • Automatic Control Interlock between HBGS Pumps and Desalination Facility Intake Pumps: The shutdown controls of the desalination facility intake pumps shall be interlocked with the HBGS pumps so that during co-location, when HBGS pump operation is discontinued to prepare for heat treatment, non-routine, or even routine pump shutdown, this would automatically trigger an alarm at the desalination facility along with shutdown of the desalination intake pumps. After this emergency shutdown, the intake pumps shall be started up manually, and the operations staff would be required to check the reason of shutdown with the HBGS staff before restarting the treatment facility intake pumps. • Continuous Intake Pump Flow Measurement Devices: Seawater intake pumps shall be equipped with flowmeters, which would record the pumped flow	Less than significant.

IMPACT	MITIGATION MEASURES		LEVEL OF SIGNIFICANCE AFTER MITIGATION
		continuously. If the intake flow is discontinued for any reason, including non-routine HBGS operations, automatic intake pump shutdown shall occur. • Continuous Intake Water Temperature Measurement Devices: The desalination facility intake pump station shall be equipped with instrumentation for continuous measurement of the intake temperature. Any fluctuations of the intake temperature outside preset normal limits shall trigger alarm and intake pump shutdown. This monitoring equipment shall provide additional protection against heat treatment or other unusual intake water quality conditions. • Continuous Intake Water Salinity/Conductivity Measurement Devices: The desalination facility intake pump station shall be equipped with instrumentation for continuous measurement of the intake seawater salinity. Any fluctuations of the intake salinity outside preset normal operational limits shall trigger an alarm and initiate intake pump shutdown. This monitoring equipment shall provide additional protection against discharge of unusual freshwater/surface water streams in the facility outfall. • Continuous Intake Water Oil Spill/Leak Detection Monitoring Devices: The desalination facility intake pump station shall be equipped with instrumentation for oil spill/leak detection. Detection of oil in the intake water, even in concentrations lower than 0.5 milligrams per liter, shall automatically trigger an alarm and initiate intake pump shutdown. This monitoring equipment shall provide additional protection against unusual intake water quality conditions. • Routine Communication with HBGS Staff: While the desalination facility is in operation in conjunction with the HBGS, the desalination facility staff of each shift shall be required to contact HBGS personnel at least once per shift and inquire about unusual planned or unplanned events at the HBGS. If non-routine operations are planned at the HBGS, the desalination facility shall modify desalination facility operations accordingly.	
	PW-3	During project operations, the RO membrane system shall be continuously monitored for feed seawater and permeate conductivity and the differential pressure through the membranes. If permeate salinity (i.e., total dissolved solids) concentration exceeds the design level, membranes shall be cleaned to recover their original performance capabilities.	
The project is not expected to result in significant impacts to regional potable water reliability with project design features incorporated. Mitigation measures are presented to document project design features and ensure that these efforts are included as requirements	**PW-4**	Prior to project operations, the desalination facility operations staff shall develop an earthquake preparedness plan, which shall be reviewed and approved by the City of Huntington Beach. The plan shall be in compliance with all applicable regulations and shall include safety planning documentation providing measures that include but are not limited to coordination procedures with appropriate agencies and facility	Less than significant.

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
in future project plans.	operations procedures to ensure water delivery under earthquake emergency conditions are maintained.	
The project is not expected to result in significant impacts to the Orange County water distribution system with project design features incorporated. Mitigation measures are presented to document project design features and ensure that these efforts are included as requirements in future project plans.	**PW-5** Prior to project operations, a corrosion monitoring system shall be installed in the proposed transmission pipeline at points of interconnection with the existing water distribution system to ensure that the proposed corrosion control measures are effective and adequate. **PW-6** To protect against potential taste and odor problems associated with the startup of facility operations, a sequential flushing program shall be initiated just prior to project startup that shall be coordinated with the involved water agencies to minimize sediment disturbance that might occur due to flow reversal in a portion of the existing distribution system. **PW-7** Prior to project operations, a sampling location shall be established near the physical connection of the transmission pipeline to the OC-44 feeder. A monitoring program shall be implemented for this location incorporating the following parameters: coliform bacteria, heterotrophic bacteria, chlorine residual, disinfection byproducts, and aesthetic parameters such as turbidity, odor, and color, as well as corrosion indices. **PW-8** Prior to project operations, the applicant shall coordinate with and obtain approval as required from applicable local water agencies that own and operate the distribution system with which the desalinated water would come in contact. Various operating approvals and corresponding agreements shall be signed before the desalinated water is introduced into the local distribution system.	Less than significant.
CLIMATE CHANGE		
No significant impacts related to climate change were identified.	No significant impacts were identified; therefore, no mitigation measures are required.	The proposed project would have no significant impact related to climate change.
LONG-TERM IMPLICATIONS AND CUMULATIVE IMPACTS		
The possibility of indirect growth inducement outside of Orange County as a result of the Proposed Project is a potentially significant impact.	No feasible mitigation available.	The project's impact on growth inducement outside of Orange County remains a significant, unmitigable impact.
Pollutants generated from construction of cumulative projects could result in an impact on ambient air quality that would overlap with those of the proposed project if the construction work occurs in close proximity and at the same time. Short-term, construction-related air quality impacts, including the project's contribution to those impacts, are considered significant.	See mitigation measures CON-10 through CON-14.	Short-term, cumulative construction-related air quality impacts are considered significant and unmitigable even with implementation of available feasible mitigation.

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
CONSTRUCTION-RELATED IMPACTS		
HYDROLOGY AND WATER QUALITY		
Construction-related impacts to hydrology and water quality.	**CON-1** Concurrent with the submittal of any Grading Plan or Demolition Plan, the Applicant shall submit an Erosion Control Plan to the City of Huntington Beach Public Works Department for review and approval, which shall include the following measures: • Where necessary, temporary and/or permanent erosion control devices, as approved by the City of Huntington Beach Public Works Department, shall be employed to control erosion and provide safety during the rainy season from October 15 to April 15. • Equipment and workers for emergency work shall be made available at all times during the rainy season. Necessary materials shall be available on site and stockpiled at convenient locations to facilitate the rapid construction of temporary devices when rain is imminent. • Erosion control devices shall not be moved or modified without the approval of the City of Huntington Beach Public Works Department. • All removable erosion protective devices shall be in place at the end of each working day when the 5-day rain probability forecast exceeds 40%. • After a rainstorm, all silt and debris shall be removed from streets, check berms, and basins. • Graded areas on the permitted area perimeter must drain away from the face of the slopes at the conclusion of each working day. Drainage is to be directed toward desilting facilities. • The permittee and contractor shall be responsible and shall take necessary precautions to prevent public trespass onto areas where impounded water creates a hazardous condition. • The permittee and contractor shall inspect the erosion control work and ensure that the work is in accordance with the approved plans. • Water shall be applied to the site twice daily during grading operations or as otherwise directed by the County of Orange Inspector in compliance with South Coast Air Quality Management District (SCAQMD) Rule 403 (Fugitive Dust Emissions). A grading operations plan may be required, including watering procedures to minimize dust and equipment procedures to minimize vehicle emissions from grading equipment. **CON-2** Construction of the project shall include best management practices (BMPs) as stated in the Orange County Stormwater Management Program's Drainage Area	Less than significant

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	Management Plan (DAMP). BMPs applicable to the project include the following: • Silt fences installed along limits of work, the project construction site, or both. • Stockpile containment (i.e., visqueen, fiber rolls, gravel bags, etc.) • Hillside stabilization structures (i.e., fiber matrix on slopes and construction access stabilization mechanisms, etc.) • Street sweeping • Tire washes for equipment • Runoff control devices (i.e., drainage swales, gravel bag barriers/chevrons, velocity check dams, etc.). **CON-3** As part of its compliance with the NPDES requirements, the applicant shall prepare permit registration documents (PRDs) that include a Notice of Intent (NOI) to be submitted to the Santa Ana Regional Water Quality Control Board providing notification and intent to comply with the State of California general permit prior to any construction occurring. Prior to filing the PRDs, completion of a stormwater pollution prevention plan (SWPPP) shall be required for construction activities on site. A copy of the SWPPP shall be available, implemented, and amended at the construction site at all times. **CON-4** As part of its compliance with the NPDES requirements, the applicant shall prepare permit registration documents (PRDs) that include a Notice of Intent (NOI) to be submitted to the Santa Ana Regional Water Quality Control Board providing notification and intent to comply with the State of California general permit prior to any construction occurring. According to the risk level assessed to the discharges of the project, the applicant will comply with additional requirements of NPDES permit (Order No. 2009-0009 DWQ (CAS000002)) to be effective July 1, 2010. These include numeric action levels and/or numeric effluent limitations for pH and turbidity, the preparation of rain event action plans, monitoring for pH and turbidity, and bioassessments. **CON-5** Prior to any dewatering activities, the applicant shall obtain and comply with a general dewatering NPDES permit from the Santa Ana Regional Water Quality Control Board. Prior to dewatering into a sanitary sewer system, the project applicant will obtain the required permit and adhere to the conditions outlined in the permit issued by the Orange County Sanitation District. **CON-6** Prior to receiving any grading or building permit, the applicant shall prepare a precise grading and drainage plan containing the recommendations of the final soils and geotechnical analysis for temporary and permanent groundwater dewatering, as well as for surface drainage, for review and approval by the Santa Ana Regional	

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	Water Quality Control Board and the City of Huntington Beach Public Works Department. The dewatering plan shall ensure treatment in compliance with the NPDES dewatering permit to be issued by the Santa Ana Regional Water Quality Control Board. Where necessary, a dewatering treatment system shall be employed to remove contaminants. For instance, for treatment of volatile organic compounds such as trichloroethylene, the system may employ at least two beds of granular activated carbon in series in addition to physical processes used to reduce suspended solids. The applicant will comply with the approved dewatering plan. The dewatering plan will include provisions for the installation and operation of a monitoring well system for the duration of the desalination facility construction period. The monitoring well system will ensure that construction activities do not have any measurable impacts on groundwater quality outside of the boundaries of the desalination facility site. The City of Huntington Beach shall require that the applicant prepare a groundwater hydrology study to determine the lateral transmissivity of area soils and a safe pumping yield such that dewatering activities do not interfere with nearby water supplies. The groundwater hydrology study shall make recommendations on whether permanent groundwater is feasible within the constraints of a safe pumping level. **CON-7** Prior to issuance of any grading permits, the applicant shall inform the Orange County Water District (OCWD) of its plans for on-site dewatering and, if necessary, acquire necessary permits and approvals from the OCWD to ensure that no adverse impacts on the groundwater basin or seawater intrusion barrier occur as a result of the proposed project. The applicant would comply with any approved dewatering permits or plans. **CON-8** During dewatering operations, a survey program shall be conducted on surrounding properties and structures to ensure that movement or settlement from on-site dewatering operations does not occur. This survey program would be subject to approval by the City of Huntington Beach Engineer and shall outline measures to be completed in the event that movement or settlement is identified, which could include discontinuing dewatering activities. **CON-9** Should on-site dewatering operations require discharge into the sanitary sewer system, the applicant shall obtain applicable permits and approvals from the Orange County Sanitation District and City of Huntington Beach Public Works Department prior to any dewatering operations. Should the dewatering discharge be directed to existing AES storm drain facilities, the Applicant shall ensure that dewatering is addressed in the applicant's Santa Ana Regional Water Quality Control Board NPDES permit.	

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
CONSTRUCTION AIR QUALITY		
Construction-related impacts to air quality from PM_{10} and $PM_{2.5}$ emissions.	**CON-10** Prior to issuance of any grading permit, the applicant shall demonstrate (through submittal of a grading plan to the City of Huntington Beach) that, in compliance with SCAQMD Rule 403, excessive fugitive dust emissions shall be controlled by regular watering or other dust prevention measures, as specified in the SCAQMD's rules and regulations. In addition, SCAQMD Rule 402 requires the implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Implementation of the following measures would reduce short-term fugitive dust impacts on nearby sensitive receptors: • Active portions of the construction site shall be watered twice daily to prevent excessive amounts of dust • On-site vehicle speed shall be limited to 15 miles per hour • All on-site roads shall be paved as soon as feasible, watered twice daily, or chemically stabilized • Visible dust beyond the property line that emanates from the project shall be prevented to the maximum extent feasible • All material transported off site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust prior to departing the job site • Track-out devices shall be used at all construction site access points • All delivery truck tires shall be watered down, scraped down, or both prior to departing the job site. **CON-11** All trucks that are to haul excavated or graded material on site shall comply with California Vehicle Code Section 23114(b)(F)(e)(4) as amended, regarding the prevention of materials spilling onto public streets and roads. Prior to the issuance of grading permits, the applicant shall demonstrate to the City of Huntington Beach Engineer how the project operations subject to that specification during hauling activities shall comply with the provision set forth in Sections 23114(b)(F)(e)(4). **CON-12** Prior to issuance of a grading permit, the City of Huntington Beach Engineer and the chief building official shall confirm that the grading plan, building plans, and specifications stipulate that, in compliance with SCAQMD Rule 403, O_3 precursor emissions from construction equipment vehicles shall be controlled by maintaining equipment engines in good condition and in proper tune per manufacturer's specifications, to the satisfaction of the City Engineer. Maintenance records shall be provided to the City. The City Inspector shall be responsible for ensuring that contractors comply with this measure during construction.	Less than significant.

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Construction-related impacts to air quality from NOx and reactive organic gas (ROG) emissions.	**CON-13** The following measures shall be implemented by the contractor to reduce ROG emissions resulting from application of architectural coatings: • Use high-pressure-low-volume paint applicators with a minimum transfer efficiency of at least 50% • Use required coatings and solvents with an ROG content lower than required under Rule 1113 • Utilize building materials that do not require painting to the extent feasible • Use pre-painted construction materials. **CON-14** Prior to issuance of a grading permit, a "Diesel Fuel Reduction Plan shall be submitted to the City Engineer . This plan shall identify the actions to be taken to reduce diesel fuel emissions during construction activities (inclusive of grading and excavation activities). Reductions in diesel fuel emissions can be achieved by measures including but not limited to the following: a) use of alternative energy sources, such as compressed natural gas or liquefied petroleum gas, in mobile equipment and vehicles; b) use of "retrofit technology," including diesel particulate traps, on existing diesel engines and vehicles; and c) other appropriate measures. Prior to the issuance of a grading permit, the Diesel Fuel Reduction Plan shall be filed with the City of Huntington Beach. The plan shall include, at a minimum, the following provisions: • All diesel-fueled off-road construction equipment shall be California Air Resources Board certified or use post-combustion controls that reduce pollutant emissions to the same level as California Air Resources Board certified equipment. California Air Resources Board certified off-road engines are engines that are 3 years old or less and comply with lower emission standards. Post-combustion controls are devices that are installed downstream of the engine on the tailpipe to treat the exhaust. These devices are now widely used on construction equipment and are capable of removing over 90% of the PM_{10}, CO, and volatile organic compounds from engine exhaust, depending on the specific device, sulfur content of the fuel, and specific engine. The most common and widely used post-combustion control devices are particulate traps (e.g., soot filters), oxidation catalysts, and combinations thereof. • All diesel-fueled on-road construction vehicles shall meet the emission standards applicable to the most current year to the greatest extent possible. To achieve this standard, new vehicles shall be used, or older vehicles shall use post-combustion controls that reduce pollutant emissions to the greatest extent feasible.	Significant and unmitigated.

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	• The effectiveness of the latest diesel emission controls is highly dependant on the sulfur content of the fuel. Therefore, diesel fuel used by on- and off-road construction equipment shall be low sulfur (less than 15 ppm) or other alternative, low-polluting diesel fuel formulation.	
Construction-related impacts resulting from noise during construction.	**CON-15** Prior to the issuance of grading permits, the applicant shall ensure evidence acceptable to the City of Huntington Beach Planning and Building Department and Public Works Department that: • Construction vehicles or equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers and other state-required noise attenuation devices. • Operations shall comply with the City of Huntington Beach Municipal Code Chapter 8.40 (Noise Control). • Property owners and occupants located within 1,200 feet of the desalination facility boundary shall be sent a notice, at least 15 days prior to commencement of construction of each phase, regarding the construction schedule of the proposed project. A sign, legible at a distance of 50 feet shall also be posted at the project construction site. All notices and signs shall be reviewed and approved by the City prior to mailing or posting and shall indicate the dates and duration of construction activities, as well as provide a contact name and a telephone number where residents can inquire about the construction process and register complaints. • Prior to issuance of a grading or building permit, the applicant shall demonstrate to the satisfaction of the City's Building Official how construction noise reduction methods (e.g., shutting off idling equipment, installing temporary acoustic barriers around stationary construction noise sources, and maximizing the distance between construction equipment staging areas and occupied residential areas) shall be used where feasible. • Construction haul routes shall be designed to avoid noise-sensitive uses (e.g., residences, schools, etc.). • During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers.	Less than significant.
CONSTRUCTION UNDERGROUND UTILITIES		
Construction-related impacts to underground utilities that are present within areas proposed for construction.	**CON-16** Unless underground utility locations are well documented, as determined by the City of Huntington Beach Public Works Department, the project engineer shall perform geophysical surveys to identify subsurface utilities and structures, and incorporate the findings into site design prior to construction. Pipelines or conduits that may be	Less than significant.

IMPACT	MITIGATION MEASURES		LEVEL OF SIGNIFICANCE AFTER MITIGATION
		encountered within the excavation and graded areas shall either be relocated or cut and plugged according to the applicable code requirements.	
CONSTRUCTION AESTHETICS			
Construction-related impacts to aesthetics, light, and glare.	**CON-17**	During construction, a security fence, the height of which shall be determined by the City of Huntington Beach Planning and Building Department, shall be installed around the perimeter of the site. The construction site shall be kept clear of all trash, weeds, etc.	Less than significant.
	CON-18	Construction activities shall be concentrated away from adjacent residential areas, to the extent feasible. Equipment storage and soil stockpiling shall be at least 100 feet away from adjacent residential property lines.	
CONSTRUCTION HAZARDS AND HAZARDOUS MATERIALS			
Construction-related impacts related to hazards and hazardous materials.	**CON-19**	Prior to excavation of the contaminated area and other areas for rough grading, the project site shall be cleared of excess vegetation, surface trash, piping, debris, and other deleterious materials. These materials shall be removed and disposed of properly (recycled, if possible).	Less than significant.
	CON-20	Proper excavation procedures shall comply with the Occupational Safety and Health Administration's Safety and Health Standards. If applicable, the SCAQMD Rule 1166 permit shall be obtained prior to the commencement of excavation and remedial activities.	
	CON-21	The contractor shall follow all recommendations contained within the adopted Remedial Action Plan and Health and Safety Plan for the project site.	
	CON-22	A licensed asbestos/lead abatement contractor shall be obtained to remediate the asbestos-containing materials and lead-based paint on site prior to construction. The contractor shall contact the SCAQMD and the City of Huntington Beach Departments of Planning, Building and Safety, and Fire prior to asbestos/lead paint removal.	
	CON-23	If any hazardous materials not previously addressed in the mitigation measures contained herein are identified and/or released to the environment at any point during the site cleanup process, operations in that area shall cease immediately. At the earliest possible time, the contractor shall notify the City of Huntington Beach Fire Department of any such findings. Upon notification of the appropriate agencies, a course of action would be determined subject to the approval of the City of Huntington Beach Public Works Department and Fire Department.	
	CON-24	All structures must be cleaned of hazardous materials prior to off-site transportation or hauled off site as a waste in accordance with applicable regulations.	

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	CON-25 Structure removal operations shall comply with all regulations and standards of the SCAQMD. **CON-26** The contractor shall post signs prior to commencing remediation, alerting the public to the site cleanup operations in progress. The City of Huntington Beach Planning and Building Department and Public Works Department shall review and approve the size, wording, and placement of these signs. **CON-27** Unrecorded or unknown wells uncovered during the excavation or grading process shall be immediately reported to and coordinated with the City of Huntington Beach Fire Department and state Division of Oil, Gas, and Geothermal Resources, and shall meet City of Huntington Beach Specification 422. **CON-28** During remediation, if any soil was found to be hazardous due to contamination other than petroleum hydrocarbons, it would be segregated, stockpiled, and handled separately after issuance of a stockpiling permit by the City of Huntington Beach Public Works Department. **CON-29** Dust and volatile organic emissions from excavation activities shall be controlled through water spray or by employing other approved vapor suppressants, including hydromulch spray, in accordance with Regional Water Quality Control Board Waste Discharge Requirements and the SCAQMD permit conditions. **CON-30** Prior to the excavation process for pipeline construction, the contractor shall coordinate with the Orange County Integrated Waste Management Department in order to ensure that proposed pipeline construction does not impact drainage of the former Cannery Street Landfill. **CON-31** Methane migration features would be consistent with the requirements of the City of Huntington Beach Specification Number 429 and other applicable state and federal regulations. The methane migration features shall be submitted for review and approval to the Orange County Health Care Agency, Environmental Health Division and the City of Huntington Beach Fire Department. **CON-32** Studies to evaluate the potential for landfill gas generation and migration would be completed prior to implementation of the proposed water delivery component of the project. Appropriate mitigation measures would be coordinated with the SCAQMD, Solid Waste Local Enforcement Agency, Regional Water Quality Control Board, and the City of Huntington Beach Fire Department. Mitigation measures shall entail active or passive extraction of landfill gas to control surface and off-site migration and passive barriers with vent layers and alarm systems below trenches and within 1,000 feet of the former Cannery Street Landfill boundary. A comprehensive monitoring network would be established along the pipeline alignment adjacent to	

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	the landfill. Periodic monitoring of the monitoring network would be performed. **CON-33** Closure reports or other acceptable documentation shall be reviewed and approved by the Huntington Beach Fire Department to document the successful completion of required remediation activities, if any, for contaminated soils, in accordance with City Specification 431-92. The reports/documentation shall be submitted and approved by the Huntington Beach Fire Department prior to the issuance of grading permits for site development. No construction shall occur in the affected area until reports have been accepted by the City.	
CONSTRUCTION TRAFFIC		
Construction-related impacts related to traffic.	**CON-34** Prior to construction, a traffic management plan (TMP) shall be prepared and implemented to the satisfaction of the affected jurisdiction within which the facilities are to be constructed where construction would affect roadways. The affected jurisdiction shall review and approve the TMP prior to construction to ensure that congestion and delay of traffic resulting from project construction is not substantially increased and will be of a short-term nature. To ensure that congestion and delay of traffic resulting from project construction is not substantially increased, the TMP shall include, but not be limited to, the following measures: • Limit construction to one side of the road or out of the roadbed where possible • Provide of continued access to commercial and residential properties adjacent to construction sites • Provide alternate bicycle routes and pedestrian paths where existing paths/routes are disrupted by construction activities, if any • Submit a truck routing plan for approval by the City of Huntington Beach, Orange County, and other responsible public agencies in order to minimize impacts from truck traffic during material delivery and disposal • Where construction is proposed for two-lane roadways, confine construction to one-half of the pavement width. Establish one lane of traffic on the other half of the roadway using appropriate construction signage and flagmen, or submit a detour plan for approval by the City Traffic Engineer • The traffic management plan shall specifically address the proposed Ascon landfill remediation activities and provide measures to ensure that the timing and frequency of truck traffic entering and exiting the landfill, in conjunction with project construction, will not result in substantial delays, or circulation conflicts. Measures may include staggering of work hours/construction days, use of flag personnel, alternate routes, or other measures capable of avoiding or reducing	Less than significant.

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	traffic congestion • Affected agencies shall approve the traffic management plan at least two weeks prior to construction. Per California Department of Transportation (Caltrans) requirements, the applicant shall submit the traffic management plan to Caltrans at the 90% design phase • Construction activities shall, to the extent feasible, be coordinated with other construction activity taking place in the affected area(s) • Provide for temporary parking, where necessary, during installation of pipelines within the AES site. • On- and off-site traffic signing and striping shall be implemented in conjunction with detailed construction plans for the project. • Ensure that access will be maintained to individual properties and businesses, and that emergency access will not be restricted. The contractor shall coordinate in advance with local jurisdictions to avoid restricting movements of emergency vehicles. Jurisdictions shall notify police departments, fire departments, ambulance services, and paramedic services in advance of the proposed locations, nature, timing, and duration of construction activities and shall advise of access restrictions that could impact their effectiveness. At locations where access to nearby property is blocked, provision shall be ready at all times to accommodate emergency vehicles, such as plating over excavations, short detours, and alternate routes in conjunction with local agencies. **CON-35** Prior to initiating the removal of structures and contaminated materials, the contractor must provide evidence that the removal of materials would be subject to a traffic control plan, for review and approval by the by the City of Huntington Beach Public Works Department. The intent of this measure is to minimize the time period and disruption of heavy duty trucks. **CON-36** Construction-related activities would be subject to, and comply with, standard street use requirements imposed by the City of Huntington Beach, Orange County, and other public agencies, including the use of flagmen to assist with haul truck ingress and egress of construction areas and limiting the large size vehicles to off-peak commute traffic periods. **CON-37** The contractor shall obtain the necessary right-of-way encroachment permits and satisfy permit requirements prior to any construction. Nighttime construction may be performed in congested areas. Also, nighttime construction activities shall have prior approval by the City of Huntington Beach Public Works Department and other affected agencies.	

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	CON-38 During periods of heavy equipment access or truck hauling, the contractor would provide construction traffic signage and a construction traffic flagman to control construction and general project traffic at points of ingress and egress and along roadways that require a lane closure. **CON-39** The applicant shall coordinate with the Public Works Department, Traffic Engineering Division in developing a truck and construction vehicle routing plan prior to issuance of grading permits. This plan shall include the approximate number of truck trips and the proposed truck haul routes. It shall specify the hours in which transport activities can occur and methods to mitigate construction related impacts to adjacent residents and the surrounding area. The plan shall take into consideration any street improvement construction occurring in the vicinity. These plans must be submitted for approval to the Public Works Department.	
CONSTRUCTION BIOLOGICAL RESOURCES		
Construction-related impacts related to biological resources.	**CON-40** The willow scrub vegetation on the OC-44 pump station site (primary site) provides suitable nesting and foraging habitat for the least Bell's vireo (*Vireo bellii bellii)*. The applicant shall demonstrate in its construction documents that construction activities do not directly affect the willow scrub vegetation. Further, if construction is to occur during the breeding season for least Bell's vireo (March 1 through September 15), focused surveys for this species are recommended in order to determine this species presence or absence from the project site prior to any construction activities. If the species is detected, and if construction occurs during the breeding season within 500 feet of active nest sites, construction noise shall be limited to 60 decibels adjusted at the nest location. **CON-41** To avoid impacts on nesting birds (including the least Bell's vireo), construction activities for the OC-44 booster pump station site or optional sites (whichever is selected) should be conducted between September 16 and March 14. If construction occurs inside the peak nesting season (between March 15 and September 15), a preconstruction survey (or possibly multiple surveys) will be conducted prior to construction activities by a qualified biologist to identify any active nesting locations. If the biologist does not find any active nests within the project site, the construction would be allowed to proceed. If the biologist finds an active nest within the project site and determines that the nest may be impacted, the biologist would delineate an appropriate buffer zone around the nest; the size of the buffer zone would depend on the affected species and the type of construction activity. Any active nests observed during the survey would be mapped on an aerial photograph. Only construction activities (if any) that have been approved by a biological monitor would take place within the buffer zone until the nest is vacated. The biologist shall serve	Less than significant.

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	as a construction monitor during those periods when construction activities shall occur near active nest areas to ensure that no inadvertent impacts on these nests shall occur. Results of the preconstruction survey and any subsequent monitoring shall be provided to the California Department of Fish and Game and any other appropriate CEQA lead and responsible agencies. **CON-42** Suitable habitat for the coastal California gnatcatcher (*Polioptila californica*) is present within the coastal sage scrub vegetation that occurs immediately east of the primary site for the OC-44 pump station. Additionally, gnatcatchers were observed in this area during the biological survey. The applicant shall demonstrate in its construction documents that occupied coastal sage scrub vegetation is not directly affected by construction activities. Further, if construction activities take place during the breeding season for this species (between February 15 and August 30 for areas within the Natural Community Conservation Plan), a preconstruction survey is recommended in order to determine the presence or absence of this species from the project site. If this species is found to occur on the project site, and if construction occurs during the breeding season within 500 feet of active nest sites, construction noise shall be limited to 60 decibels adjusted at the nest location **CON-43** A survey for active raptor nests by a qualified biologist would be required on the proposed OC-44 booster pump station site prior to any habitat disturbance during the breeding season (generally between February 1 and June 30). Any occupied nests found during survey efforts would be mapped on construction plans. Restrictions on construction activities may be required in the vicinity of the nest until the nest is no longer active as determined by a qualified biologist. In many circumstances, a 300- to 500-foot buffer zone is designated around an active nest to minimize disturbance to the active nest. Once the nest is no longer in use for the season, construction can proceed within the buffer zone. **CON-44** The project applicant shall prepare a horizontal directional drill contingency plan prior to each major bore to address procedures for containing an inadvertent release of drilling fluid (frac-out). The plan shall contain specific measures for monitoring frac-outs, containing drilling mud, and notifying agency personnel. The City Engineer and appropriate resource agencies shall review the site-specific Frac-Out Contingency Plan prior to each major bore, and during construction the project applicant shall implement the measures identified in the plan. **CON-45** In order to minimize potential construction impacts to nesting savannah sparrows (*Passerculus sandwichensis*) near the proposed desalination facility, a qualified biologist will perform a preconstruction nesting survey in consultation with applicable regulatory agencies. Should nesting savannah sparrows be found, adequate mitigation (e.g., relocation, construction noise abatement measures, etc.) would be	

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	implemented as appropriate based on the findings of the preconstruction survey. **CON-46** Focused surveys for sensitive biological resources performed prior to proposed project implementation shall include a review of data within the California Natural Diversity Database to obtain current information on any previously reported sensitive species/habitat, including Significant Natural Areas identified under Chapter 12 of the Fish and Game Code. **CON-47** Construction activities would be limited to a well-defined area. Prior to grading and construction activities, a qualified biologist shall fence or stake the limits of disturbance. **CON-48** A qualified biologist shall monitor construction activities to ensure that no inadvertent impacts on biological resources occur.	
CONSTRUCTION CULTURAL AND PALEONTOLOGICAL RESOURCES		
Construction-related impacts related to cultural resources.	**CON-49** Should buried historical/archaeological resources be discovered during excavation on the OC-44 proposed booster pump station site, all construction work in that area shall be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds. **CON-50** During excavation of 5 feet below ground surface or lower on the proposed OC-44 booster pump station site, a paleontological resource recovery program for Miocene invertebrate fossils shall be implemented. This program shall include, but not be limited to, the following: • Monitoring by a qualified paleontologic monitor of excavation in areas identified as likely to contain paleontologic resources. The monitor shall be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediments, which are likely to contain the remains of small fossil invertebrates and vertebrates. The monitor must be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Monitoring may be reduced if the potentially fossiliferous units described herein are not encountered, or upon exposure are determined following examination by qualified paleontologic personnel to have low potential to contain fossil resources. • Preparation of recovered specimens to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates. • Identification and curation of specimens into a museum repository with permanent retrievable storage. The paleontologist should have a written repository agreement in hand prior to the initiation of mitigation activities.	Less than significant.

IMPACT	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	• Preparation of a report of findings with appended itemized inventory of specimens. The report and inventory, when submitted to the appropriate lead agency, would signify completion of the program to mitigate impacts to paleontologic resources. **CON-51** A qualified paleontologist shall be retained to monitor grading operations at the proposed desalination facility site and, if necessary, to salvage scientifically significant fossil remains. The paleontologist shall have the authority to temporarily divert or direct grading efforts to allow evaluation and salvage of exposed fossils. **CON-52** While it is not anticipated, in the case that human remains are found within the OC-44 booster pump station site, no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the County coroner has determined, within two working days of notification of the discovery, the appropriate treatment and disposition of the human remains. The County coroner shall be notified within 24 hours of the discovery. If the County coroner determines that the remains are or are believed to be Native American, the California Native American Heritage Commission in Sacramento must be notified within 24 hours. In accordance with California Public Resources Code, Section 5097.98, the Native American Heritage Commission must immediately notify those persons it believes to be the most likely descended from the deceased Native American. The descendents shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.	

1.8 SUMMARY OF PROJECT ALTERNATIVES

NO PROJECT ALTERNATIVE

Under the No Project Alternative, none of the impacts associated with the proposed development and construction activities would occur. The fuel oil storage tanks on the proposed desalination facility site would remain in place. Water planning professionals have forecast that water demands will increase in the Southern California area and have specifically identified resource targets to help meet projected demands, including local seawater desalination facilities. Consequently, adoption of the No Project Alternative would result in shifting the obligation for meeting a portion (up to 56,000 acre-feet per year) of future water demands from the project to: (1) increased conservation efforts (efficiency improvements and reduced consumption); (2) increased use of imported water supplies; (3) increased use of groundwater supplies; (4) construction of additional local water supply projects; and/or (5) construction of seawater desalination projects elsewhere in Orange County. In some instances, therefore, the potential environmental impacts associated with the No Project Alternative may be greater than those associated with the project.

ALTERNATIVE SITE

Several other locations outside of the City of Huntington Beach have been considered for this project, including the mouth of San Juan Creek (within the City of Dana Point), San Onofre (within San Diego County), and along the coast of the City of San Clemente (refer to Section 6.0, Alternatives to the Proposed Action). These alternatives are not being considered for a variety of reasons, such as the 56,000 acre-feet-per-year size of the proposed project (San Juan Creek), environmental concerns of a new ocean intake/discharge system (San Clemente), and/or engineering/acquisition issues (San Onofre).

ALTERNATIVE OWNERSHIP

Under the Alternative Ownership Alternative, the proposed project would be the same as described in Section 3.0, with the exception that a public entity, rather than a private corporation, would own and operate the desalination facility. Assuming that rights to the site were acquired by a public entity, this alternative would result in the same potential environmental impacts that would result from implementation of the project as proposed (under private ownership). Consequently, the Alternative Ownership Alternative and the proposed project would result in the same potential impacts on the environment.

ALTERNATIVE INTAKE AND DISCHARGE DESIGNS

Alternative intake designs, including beach wells and seabed filtration systems, were considered. There are three types of filtration systems typically utilized for the intake of seawater: (1) vertical intake wells, (2) slant intake wells, and (3) horizontal intake wells. These subsurface intake facilities have one key advantage over the proposed project: the source water they collect is filtered through the subsurface sand/seabed formations in the area of source water extraction. All intake system alternatives reviewed would extract the seawater supply by slowly withdrawing the water from the surrounding sand. Any one of the subsurface intake alternatives would be more impactful to the environment than the project because each would result in irreversible damage to the Talbert Marsh, Brookhurst Marsh, and Magnolia Marsh and negate years of restoration measures; and

result in a number of negative environmental impacts and human health risks. More specifically, impacts associated with subsurface intake include (1) detrimental environmental impact of intake well operations on the adjacent Talbert Marsh, Brookhurst Marsh, and Magnolia Marsh due to dewatering; (2) poor water quality of the Talbert Aquifer in terms of ammonia, bacterial contamination, and lack of oxygen; (3) interception of contaminated groundwater from nearby Ascon Landfill, which may introduce carcinogenic hydrocarbons in the source water supply of the desalination facility; (4) interception of injection water from Talbert Barrier by the intake and impairment of the function of this barrier to protect against seawater intrusion; (5) subsidence of public roads and structures due to drawdown of the groundwater table; and (6) impairment of the aesthetic value of the coastal shore by the obtrusive aboveground intake structures. Installation of alternative beach wells or seabed filtration systems would result in construction-related temporary impacts, as well as permanent impacts. Additionally, as noted in Section 4.10, Ocean Water Quality and Marine Biological Resources, the project, under either the co-located or standalone condition, would not result in significant impacts related to entrainment.

Project discharge alternatives considered include (1) use of Orange County Sanitation District 120-ince outfall pipe and (2) retrofitting a velocity cap on the existing HBGS outfall pipe to diffuse the discharge in the ocean water. Orange County Sanitation District indicated that, based on hydraulic discharge capacity and future wastewater projections, the 120-inch outfall pipe is anticipated to be exceeded once every 3 years by 2020, and is therefore not a feasible alternative discharge pipe for the proposed project. The velocity-cap diffuser would cause faster dilution of the sea salts beyond 600 feet from the outfall (far-field), but would result in higher salinities on the seafloor within 600 feet from the outfall (near-field). The velocity-cap diffuser eliminates the concentrated seawater surface boil and increases the dilution factor at the shoreline from 32 to 1 to 38 to 1. However, these favorable far-field and inshore effects produced by the diffuser are offset by increased benthic impacts near the outfall. The velocity-cap diffuser limits the dilution volume to only the lower half of the water column near the outfall where salinity is highest. Without the velocity cap, the concentrated seawater discharge takes a vertical trajectory toward the sea surface, forming a surface boil, before subsiding back to the seafloor, passing through the full depth of the water column in the immediate neighborhood of the outfall, and thereby increasing the near-field dilution. Therefore, the diffuser would increase the seabed salinity at the base of the outfall under both the co-located and standalone conditions. Because the discharge diffuser produces mixed results in terms of salinity dispersion, and because the project would not result in significant impacts related to elevated salinity (see Section 4.10), the diffuser discharge alternative does not provide substantial benefits in terms of impact avoidance or reduction, and is therefore not being further considered.

ALTERNATIVE FACILITY CONFIGURATION

Since the 2005 REIR was certified and the project approved, certain circumstances surrounding the project have changed, and new information that was not known and could not have been known at the time that the 2005 REIR was certified has become available. As a result of the new site plan for the proposed project, and because the project has been considered and approved by the City of Huntington Beach, the 2005 site plan has been added as the Alternative Facility Configuration to the proposed project. The operation of the proposed desalination facility would generally remain the same. Impacts associated with the alternative facility configuration would generally be similar to those identified for the proposed project, and mitigation measures identified for the proposed project would also be applicable to the alternative.

REDUCED FACILITY SIZE

Under the Reduced Facility Size Alternative, the proposed project would produce approximately 25 mgd of potable water, rather than the proposed 50 mgd. The proposed desalination facility would still use RO technology to remove impurities from seawater to produce potable water for distribution to local water agencies. The design and operation of the proposed desalination facility would generally remain the same. Under this alternative the size of the facility would be reduced, the amount of seawater required to produce water would be less, and the amount of concentrated seawater discharged back into the HBGS outfall would be less. While the Reduced Facility Size Alternative may result in reduced impacts in comparison to the proposed project, the 25 mgd alternative would provide water at a cost that would not be acceptable to Orange County water purveyors and would not produce a sufficient amount of desalinated water to meet projected future demand. Implementation of the 25 mgd alternative would not avoid the project's identified unavoidable construction-related air quality impact and would reduce the water quality benefits of the proposed project. As such, this alternative is not presently under consideration.

1.9 SUMMARY OF GROWTH INDUCMENT

The seawater desalination project would provide a new source of potable water supply (desalinated seawater) producing 50 mgd, or 56,000 acre-feet per year, of potable water for use within Orange County. However, the desalinated seawater would not be made directly available to end users. Instead, the project requires that the desalinated seawater produced by the project be delivered only to existing regional or local water purveyors in Orange County.

In 2006, the City of Huntington Beach and Poseidon entered into an Owner Participation Agreement. Additionally, 15 retail water purveyors and the Municipal Water District of Orange County had each signed letters of intent indicating their conditional interest in entering purchase agreements with Poseidon to purchase specific amounts of desalinated seawater in each year that water is produced at the Seawater Desalination Project at Huntington Beach. Section 3.4, Project Characteristics, provides a list of the water purveyors that have signed a letter of interest with Poseidon. Because the entire 56,000 acre-feet of desalinated seawater to be produced by the project has been reserved, the growth-inducing impact of the project would depend entirely upon how those regional or local water purveyors allocate the desalinated seawater produced by the project.

Neither CEQA nor the CEQA Guidelines provides a specific methodology for determining whether a project like the proposed project would have growth-inducing impacts. One methodology would be to assume a scenario in which water produced by the seawater desalination project was directed by regional and local water purveyors entirely toward fostering unplanned growth in Orange County. At 200-gallon-per-day per capita water use, the project could supply water to 250,000 additional people, or approximately 8% more than Orange County's 3,000,000 current residents. When Orange County's population exceeds 3,600,000 residents in 2035, the project would be able to serve approximately 7% of that projected population.

Allocating the project's water supply entirely toward fostering unplanned growth in Orange County is not realistic because existing water supply plans for Orange County identify desalinated seawater as one of the additional water sources already counted upon to meet the future supply needs for projected population increases. As set forth in Section 3.5, Project Need and Objectives, the

Seawater Desalination Project at Huntington Beach provides a new source of supply to offset any imported water supply losses experienced by Orange County. Further, it is not anticipated that the purchase of water from a different supplier (Poseidon) by any of the affected water agencies would result in changes to existing land use plans, growth projections, or growth management policies of the local land use authorities within the respective service areas of those water agencies. Local water agencies purchase and deliver water to retail customers, do not have direct authority over land use, and cannot approve or disapprove changes in land use that would directly affect population projections.

Under CEQA, growth inducement is not necessarily considered detrimental, beneficial, or of little significance to the environment. Typically, the growth-inducing potential of a project would be considered significant if it fosters growth or a concentration of population in excess of what is assumed in pertinent general plans or in projections made by regional planning agencies. In consideration of population and housing projections within Orange County and the recognized need (in Orange County water supply plans) for seawater desalination as a supply source, impacts would be less than significant.

The Growth Assessment and General Plan Evaluation examines planned growth in Orange County and demonstrates that the potential water supply from the Seawater Desalination Project at Huntington Beach is not currently being relied upon to serve any of the planned new development projects of 500 dwelling units for which water supplies have been confirmed. The Project will not supply water in excess of what is already anticipated to meet future projected needs in Orange County. Therefore, the Project will not cause significant growth-inducing impacts in Orange County.

However, the replacement of imported water supplies with desalinated water supplies produced by the project could have the effect of making the imported water supplies that are displaced by the desalinated water supplies available for use outside of Orange County. Determination of the specific potential indirect growth-inducing effects outside of Orange County would require speculation that is beyond the scope of the environmental analysis for the project.